ZZW
AF

PATENT APPLICATION
ATTORNEY DOCKET NO. 22971.NP / 3003.2.9A

# IN THE UNITED STATES PATENT & TRADEMARK OFFICE

ART UNIT: 2155

EXAMINER: Thu Ha Nguyen

APPLICANT: Sanchaita Datta and Ragula Bhaskar

SERIAL NO.: 10/034,197

FILED: December 28, 2001

FOR: COMBINING CONNECTIONS FOR PARALLEL ACCESS TO MULTIPLE FRAME RELAY AND OTHER PRIVATE NETWORKS

## SUPPLEMENTAL APPEAL BRIEF

**CERTIFICATE OF MAILING**

DATE OF MAILING: 3-4-05

I hereby certify that this paper or fee (along with any paper or fee referred to as being attached or enclosed) is being mailed, postage paid, in a package addressed to Mail Stop Appeal Brief - Patents, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on the date indicated above.

Karen Jacobson

Printed Name: KAREN JACOBSON

Mail Stop Appeal Brief - Patents
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Commissioner:

On August 17, 2004, Applicants and Assignee filed an Original Appeal Brief appealing from a Final Office Action mailed April 19, 2004. On December 23, 2004, the Examiner reopened prosecution by mailing a Reopening Office Action.

**Please reinstate the appeal.**

This application has been granted ***accelerated*** examination status.

The Original Appeal Brief is incorporated herein. To the extent this Supplemental Appeal Brief is inconsistent with the original Appeal Brief, this Supplemental Appeal Brief should prevail.

**Real Party in Interest**

The real party in interest in this appeal is Assignee, Ragula Systems (FatPipe Networks).

**Related Appeals and Interferences**

None.

**Status of Claims**

Claims 1-21 were rejected in the Final Office Action, were rejected in the Reopening Office Action (December 23, 2004), are still pending, and are now appealed.

**Status of Amendments**

No amendments were filed after the Final Office Action or the Reopening Office Action.

**Summary of Invention**

The present invention relates to tools and techniques for accessing multiple independent frame relay networks and/or point-to-point (e.g., T1 or T3) network connections in a parallel network configuration, as shown for instance in Figure 5 or Figure 6. Frame relay networks 106 and point-to-point networks are each "**private networks**"; *see* application at page 9 lines 10-12. In some embodiments a controller 502 according to the invention comprises a site interface 702 connecting the controller to a site 102, at least two private network interfaces 706, and a packet path selector 704 which selects between private network interfaces according to a specified criterion. A site may include a local area network; *see* discussion of Figure 7 on pages 13-14, and page 17 lines 15-17.

The controller receives 804 a packet through the site interface and sends 814 the packet through the private network interface that was selected 806 by the packet path selector. The controller's packet path selector selects between **private network** interfaces according to various criteria, such as (a) a load-balancing criterion 808 that promotes balanced loads on devices that carry packets after the packets leave the selected private network interfaces; (b) a reliability

criterion 810 that promotes use of devices that will still carry packets after the packets leave the selected private network interfaces, when other devices that could have been selected are not functioning, and (c) a security criterion 812 that promotes use of multiple private networks to carry different pieces of a given message so that unauthorized interception of packets on fewer than all of the networks used to carry the message will not provide the total content of the message.

The invention also provides other controller embodiments, and it provides method embodiments. The claims define the invention; this summary is provided merely as an introduction and to assist in understanding the claims.

**Issues**

1. Is a local area network a "private network" as that term is defined by applicants?
2. Were claims 9, 15 properly rejected under Section 103 in view of U.S. Patent No. 5,948,069 by Kitai et al. ("Kitai")?
3. Were claims 1-3, 8, 10-12, 14, 18, and 20 properly rejected under Section 103 in view of Kitai combined with U.S. Patent No. 6,209,039 to Albright et al. ("Albright")?
4. Were claims 4, 13, 16, and 21 properly rejected under Section 103 in view of Kitai combined with Albright and with U.S. Patent No. 5,910,951 to Pearce et al. ("Pearce")?
5. Was claim 5 properly rejected under Section 103 in view of Kitai combined with Albright and with U.S. Patent No. 6,546,423 to Dutta et al. ("Dutta")?
6. Was claim 17 properly rejected under Section 103 in view of Kitai combined with Albright, Pearce, and Dutta?
7. Were claims 6 and 7 properly rejected under Section 103 in view of Kitai combined with Albright and with U.S. Patent No. 6,195,680 to Goldszmidt et al. ("Goldszmidt")?
8. Was claim 19 properly rejected under Section 103 in view of Kitai combined with Pearce and also combined with Goldszmidt?

*Note*: The foregoing statement of issues resolves inconsistencies in the Reopening Office Action by following the actual reference citations that were made claim-by-claim in the Reopening Office Action, rather than following the summary paragraphs therein. For instance, summary paragraph 4 of the Reopening Office Action asserts that several claims, including claim 9, are rejected in view of Kitai and Albright, but the actual rejection in paragraph 9 of the Reopening Office Action only cites Kitai. Therefore, claim 9 is treated here as being rejected in view of Kitai alone. Several similar inconsistencies in the Reopening Office Action are likewise resolved by addressing the references that were actually discussed in a rejection, rather than the references that a summary paragraph merely asserted (wrongly) would be discussed.

**Grouping of Claims**

Solely for purposes of this appeal, the claims are grouped as follows:

Group I: claims 9, 15

Group II: claims 1-3, 8, 10-12, 14, 18, and 20

Group III: claims 4, 13, 16, and 21

Group IV: claim 5

Group V: claim 17

Group VI: claims 6 and 7

Group VII: claim 19

This grouping is different than the grouping in the original Appeal Brief, because the references are combined differently in the Reopening Office Action than in the Final Office Action.

In this appeal, each of the claims in a given group stand or fall together.

**Argument**

By way of context, the following papers are among those filed or mailed in this case:

Provisional provisional application, filed December 29, 2000

| | |
|---|---|
| Application | non-provisional application, filed December 28, 2001 |
| First IDS | information disclosure statement, filed April 29, 2002 |
| Second IDS | information disclosure statement, filed March 14, 2003 |
| Third IDS | information disclosure statement, filed April 9, 2003 |
| Fourth IDS | information disclosure statement, filed April 11, 2003 |
| Petition | petition to accelerate examination, filed April 21, 2003 |
| Fifth IDS | information disclosure statement, filed June 3, 2003 |
| Petition Grant | decision granting Petition, mailed October 8, 2003 |
| First Action | first office action on the merits, mailed November 5, 2003 |
| Response | response, filed February 4, 2004 |
| Third-Party | third party submission, filed on or about April 5, 2004 |
| Final Action | final office action, mailed April 19, 2004 |
| Interview Summary | interview summary, filed May 25, 2004 |
| Appeal Notice | notice of appeal, filed July 14, 2004 |
| Original Appeal Brief | original brief, filed August 17, 2004 |
| Reopening Office Action | office action reopening prosecution, December 23, 2004 |
| Supplemental Appeal Brief | this present brief |

The shortcomings of the rejections will now be reviewed. Arguments and statements by Applicants made earlier but not repeated here are also part of the record for this appeal and are not waived, although they may be modified or supplemented here. To keep this brief short while still trying to provide an adequate basis for review, some observations and arguments that might have been presented are not included. Accordingly, Applicants' silence here with respect to particular statements by the Office does not indicate their agreement or acquiescence.

A local area network is not a "private network"

Despite the well-documented and detailed explanation of Kitai's shortcomings at pages 5-9 of the Original Appeal Brief (incorporated herein), the Examiner continues to assert Kitai in every rejection. The examiner now concedes (e.g., on pages 3, 5, 9 of the Reopening Office Action) that Kitai does not teach private networks; the LANs of Kitai are not private networks.

The failure of Kitai to discuss private networks is one reason those of skill in the art would not have combined Kitai with other references, such as Albright, that do discuss frame relay or other private networks. Kitai's failure to discuss private networks is also a reason why the asserted combinations, even if they were proper, would fail to teach the claimed invention. However, these points are made at length in the Original Appeal Brief and below, so it suffices at this time to note that the Reopening Office Action (unlike the Final Office Action) does not argue that Kitai's local area networks are actually private networks as claimed by Applicants. Indeed, by withdrawing the rejections under Section 102 which were based solely on Kitai, the Examiner has implicitly acknowledged that Kitai fails to teach private networks.

Claims 9 and 15 (Group I) were not properly rejected under Section 103 in view of Kitai

The Reopening Office Action is inconsistent as to the basis for rejecting these claims. Although the preceding summary paragraphs in the Reopening Office Action (paragraphs 4 and 14) assert that these claims are rejected based on more references than just Kitai, the rejections themselves (paragraphs 9 and 18) only discuss Kitai. Accordingly, for purposes of appeal, the rejections are based solely on Kitai. However, if the Board wishes to consider other grounds *sua sponte*, with regard to these or other claims, then Applicants respectfully request that the Board please also consider the arguments here and in the Original Appeal Brief against combining Kitai with other cited references.

As noted, the Examiner concedes that Kitai fails to teach private networks. Moreover, the leap from Kitai's LANs to the claimed invention's private networks is a large and nonobvious leap, for at least the reasons discussed in the Original Appeal Brief at pages 6-9. Thus, the claims are not obvious in view of Kitai.

Claims 1-3, 8, 10-12, 14, 18, and 20 (Group II) were not properly rejected under Section 103 in view of Kitai combined with Albright

The Original Appeal Brief noted on pages 13-14 the failure of the office actions up to that point to provide a proper justification for combining Kitai and Albright. The Reopening Office Action asserts different reasons, but they likewise fail to establish the necessary suggestion or

motivation in the art for combining these references. On page 4 of the Reopening Office Action, the reason given is that the combination "would provide an efficient communications system that the data can be dynamically monitored and routed among links/paths in order to reduce the congestion or failure within the networks (col. 2, lines 15-25)." But as in the Final Action, this rejection confuses serial networks with parallel networks. The cited section of Albright actually teaches routing *within* a network, not routing that selects between two parallel networks. Moreover, the rejection again fails to explain any reason why the cited section of Albright would have led one of skill in the art to Kitai, as opposed to any other reference.

Accordingly, the rejections based on Albright and Kitai should be withdrawn or reversed. The combination is improper because the cited section of Albright (a frame relay reference) does not suggest combination with Kitai (a LAN reference). Moreover, the combination fails to teach the claimed parallel private network innovations, because Albright teaches serial networks (they are in fact the very reason for Albright's network-to-network interface) rather than teaching networks placed in parallel as claimed.

<u>Claims 4, 13, 16, and 21 (Group III) were not properly rejected under Section 103 in view of Kitai combined with Albright and Pearce</u>

The failure to justify combining Kitai and Albright is discussed above with respect to Group II claims, and in the Original Appeal Brief on pages 13-14. The Reopening Office Action fails to give any further basis for adding Pearce to this combination. For example, in paragraph 15, the Reopening Office Action merely asserts that it would have been obvious to combine Kitai, Albright and Pearce "because it would have an efficient communication system to control and select the reliable, qualifiable network/interface/path among multiple networks/interfaces/paths." Paragraph 32 of the Reopening Office Action asserts that it would have been obvious to combine Kitai, Albright and Pearce "because it would detect and improve network security, traffic and failure." These are general statements, which do not suggest any combination of references. They merely suggest goals without suggesting ways to meet them.

The rejections fail to identify anything specific in one reference or in the art that would have led one of skill to the particular other references. It is well-established patent law that a

rejection under Section 103 requires evidence of a suggestion or motivation in the prior art to combine the references. *See, e.g.,* M.P.E.P. §§ 2142, 2143.01, and cases cited therein. A general unsupported assertion that the combination would be efficient or more secure is not specific **evidence** that one of skill would have combined these particular references. For at least these reasons, the rejections should be withdrawn or reversed.

Claim 5 (Group IV) was not properly rejected under Section 103 in view of Kitai combined with Albright and Dutta

The failure to justify combining Kitai and Albright is discussed above with respect to Group II claims, and in the Original Appeal Brief on pages 13-14. The failure to justify combining Kitai and Dutta is discussed in the Original Appeal Brief on pages 11-12. The Reopening Office Action fails to add any grounds for combining these references. For at least these reasons, the rejections should be withdrawn or reversed.

Claim 17 (Group V) was not properly rejected under Section 103 in view of Kitai combined with Albright, Pearce, and Dutta

The failure to justify combining Kitai and Albright is discussed above with respect to Group II claims, and in the Original Appeal Brief on pages 13-14. The failure to justify combining Kitai and Dutta is discussed in the Original Appeal Brief on pages 11-12. The failure to justify combining Kitai and Pearce is discussed in the Original Appeal Brief on pages 10-11. The Reopening Office Action fails to add any grounds for combining these references. For at least these reasons, the rejections should be withdrawn or reversed.

Claims 6 and 7 (Group VI) were not properly rejected under Section 103 in view of Kitai combined with Albright and Goldszmidt

The failure to justify combining Kitai and Albright is discussed above with respect to Group II claims, and in the Original Appeal Brief on pages 13-14. The failure to justify combining Kitai and Goldszmidt is discussed in the Original Appeal Brief on pages 12-13. The Reopening Office Action fails to add any grounds for combining these references. For at least these reasons, the rejections should be withdrawn or reversed.

Claim 19 (Group VII) was not properly rejected under Section 103 in view of Kitai combined with Pearce and Goldszmidt

The failure to justify combining Kitai and Pearce is discussed in the Original Appeal Brief on pages 10-11. The failure to justify combining Kitai and Goldszmidt is discussed in the Original Appeal Brief on pages 12-13. The Reopening Office Action fails to add any grounds for combining these references. For at least these reasons, the rejections should be withdrawn or reversed.

Conclusion

The appeal should be reinstated, or the claims should be allowed. If the appeal is reinstated, then all rejections should be reversed for the reasons above. If any questions might be answered by telephone, the undersigned invites a call at the Office's convenience.

The Commissioner is hereby authorized to charge any additional fee or to credit any overpayment in connection with this Appeal Brief to Deposit Account No. 20-0100.

Dated this March 4, 2005.

Respectfully submitted,

JOHN W. OGILVIE
Registration No. 37,987

THORPE NORTH & WESTERN, LLP
Customer No. 20,551
P.O. Box 1219
Sandy, Utah 84091-1219
801-566-6633 (voice)
801-566-0750 (fax)

## CLAIMS ON APPEAL

1. A controller which controls access to multiple independent private networks in a parallel network configuration, the controller comprising:

a site interface connecting the controller to a site;

at least two private network interfaces; and

a packet path selector which selects between private network interfaces according to a specified criterion;

wherein the controller receives a packet through the site interface and sends the packet through the private network interface that was selected by the packet path selector.

2. The controller of claim 1, wherein the controller control access to multiple independent frame relay networks, and each of the at least two private network interfaces comprises a frame relay network interface.

3. The controller of claim 1, wherein the packet path selector selects between private network interfaces according to a load-balancing criterion, thereby promoting balanced loads on devices that carry packets after the packets leave the selected private network interfaces.

4. The controller of claim 1, wherein the packet path selector selects between private network interfaces according to a reliability criterion, thereby promoting use of devices that will still carry packets after the packets leave the selected private network interfaces, when other devices that could have been selected are not functioning.

5. The controller of claim 1, wherein the packet path selector selects between private network interfaces according to a security criterion, thereby promoting use of multiple private networks to carry different pieces of a given message so that unauthorized interception of packets on fewer than all of the private networks used to carry the message will not provide the total content of the message.

6. The controller of claim 1, wherein the controller sends packets out of sequence over the parallel private networks.

7. The controller of claim 6, wherein the controller places an encrypted sequence number in at least some of the packets which are sent out of sequence.

8. The controller of claim 1, wherein the controller comprises at least three frame relay network interfaces, each of which is selectable by the packet path selector.

9. The controller of claim 1, wherein the controller operates in a system providing at least one point-to-point connection.

10. The controller of claim 1, wherein the controller operates in a system providing connectivity over at least two frame relay networks from at least two carriers, each frame relay network operating on its own clock which is different from the clock of the other frame relay network.

11. The controller of claim 1, wherein each private network interface is an indirect interface tailored to a particular type of frame relay network.

12. The controller of claim 1, wherein each private network interface is a direct interface comprising an Ethernet card.

13. A method for combining connections for access to multiple parallel private networks, the method comprising the steps of:

obtaining a controller, the controller comprising a site interface, at least two private network interfaces, and a packet path selector which selects between private network interfaces according to a specified criterion;

connecting the controller site interface to a site to receive packets from a computer at the site;

connecting a first private network interface of the controller to a first private network;

connecting a second private network interface of the controller to a second private network which is parallel to and independent of the first private network; and

sending a packet to the site interface which then sends the packet through a private network interface selected by the packet path selector.

14. The method of claim 13, wherein the private networks are frame relay networks.

15. The method of claim 13, further comprising the step of specifying the criterion for use by the packet path selector, wherein the specified criterion is a load-balancing criterion.

16. The method of claim 13, further comprising the step of specifying the criterion for use by the packet path selector, wherein the specified criterion is a reliability criterion.

17. The method of claim 13, further comprising the step of specifying the criterion for use by the packet path selector, wherein the specified criterion is a security criterion.

18. The method of claim 13, wherein at least one of the steps connecting a private network interface of the controller connects the controller to a User-to-Network Interface in a router of a frame relay network.

19. A method for combining connections for access to multiple independent parallel frame relay networks, the method comprising the steps of:

sending a packet to a site interface of a controller, the controller comprising the site interface which receives packets, at least two network interfaces, and a packet path selector which selects between network interfaces according to a specified criterion; and

specifying the criterion for use by the packet path selector, wherein the specified criterion is one of: a security criterion, a reliability criterion, a load-balancing criterion.

20. The method of claim 19, wherein the step of sending a packet to the controller site interface is repeated as multiple packets are sent, the step of specifying a criterion specifies a security criterion, and the controller sends different packets of a given message to different frame relay networks.

21. The method of claim 19, further comprising the step of sensing failure of one of the parallel frame relay networks and automatically sending traffic through at least one other parallel frame relay network.